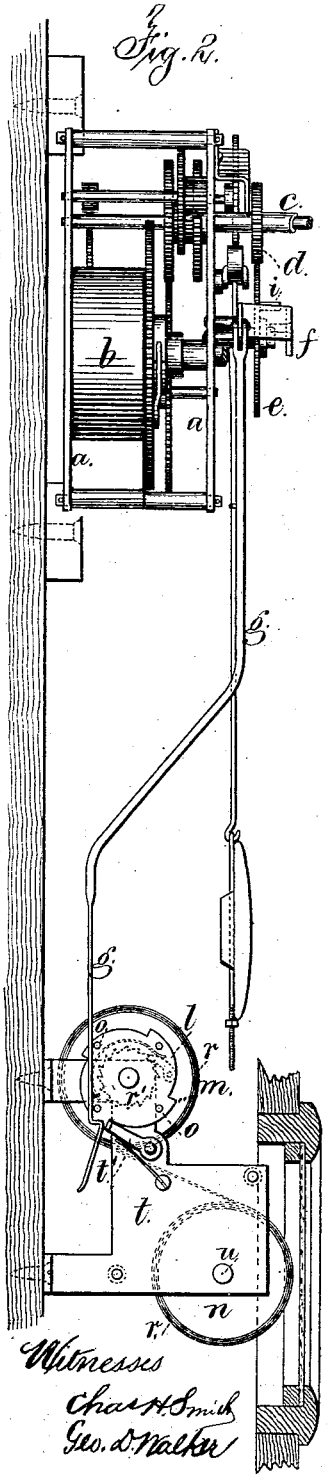
A. PHELPS.

CALENDAR CLOCK.

No. 185,128. Patented Dec. 5, 1876.

Fig. 2.



Witnesses

Chas. H. Smith

Geo. D. Walker

Fig. 1.

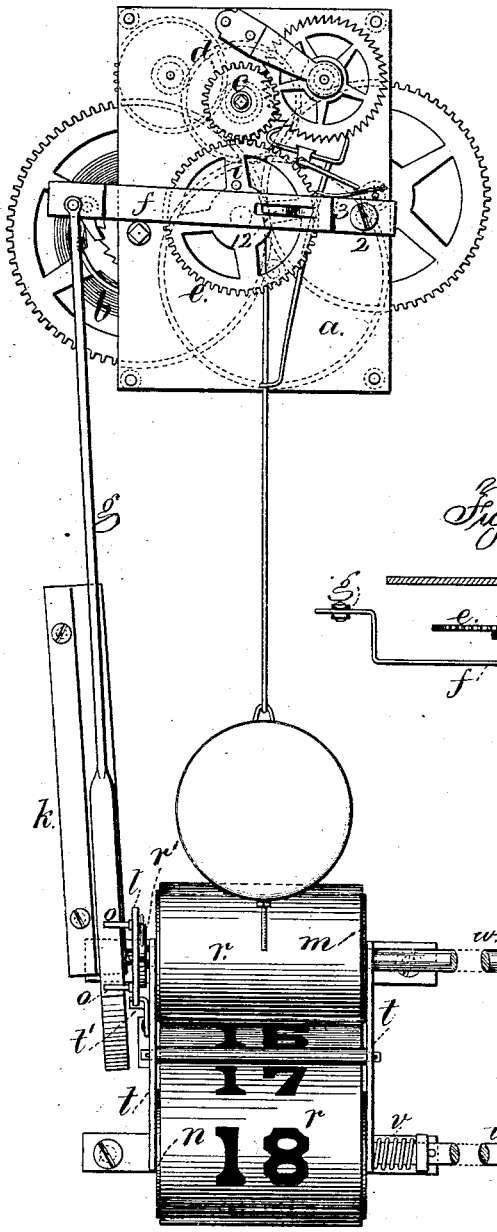
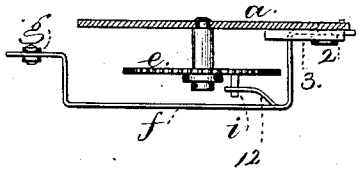


Fig. 3.



Inventor

Albert Phelps.

per Lemuel W. Serrell

Atty

UNITED STATES PATENT OFFICE.

ALBERT PHELPS, OF ANSONIA, CONNECTICUT, ASSIGNOR TO ALFRED A. COWLES, OF NEW YORK, N. Y.

IMPROVEMENT IN CALENDAR-CLOCKS.

Specification forming part of Letters Patent No. **185,128**, dated December 5, 1876; application filed October 16, 1876.

To all whom it may concern:

Be it known that I, ALBERT PHELPS, of Ansonia, in the county of New Haven and State of Connecticut, have invented an Improvement in Calendar-Clocks, of which the following is a specification:

In Letters Patent No. 165,548, granted July 13, 1875, a calendar-clock is shown, in which the days of the month are upon a panoramic strip, moved periodically by a connection to the striking mechanism. My invention is an improvement upon the same, and relates to the peculiarity of mechanism for operating the panoramic calendar from the time mechanism of the clock.

In the drawing, Figure 1 is an elevation of the calendar mechanism. Fig. 2 is a side view of the same; and Fig. 3 is a plan of the lever and wheel operating the pawl of the panoramic calendar.

The clock movement is to be of any desired character. I have shown the frames or plates *a*, with the spring-barrel *b* and arbors *c*, for the hands, as usual. Upon the cylindrical arbor of the hour-hand there is a wheel, *d*, gearing into a wheel, *e*, of twice the size, so that this wheel *e* revolves once in twenty-four hours, and upon this wheel *e* there is a stud, *i*, acting upon the lever *f*, that is pivoted at 2, near one end, and jointed at the other end to the spring-pawl bar *g*, that actuates the panoramic calendar.

There is a metallic tongue or finger, 12, at the back of the lever *f*, against which the stud *i* operates, and when the stud *i* moves clear of the finger 12 the spring 3 returns the lever *f* and pawl-bar *g* to their normal position.

The lower end of the pawl-bar *g* is made sufficiently thin to form a spring, and there is a hook-pawl that operates upon one of the studs *o* of the ratchet-wheel *l*, that is at the end of the roller *m* of the panoramic calendar.

The lower roller *n* receives one end of the panoramic band *r*, upon which the days of the month are printed, and there is a frame, *t*, holding the shafts of these rollers.

It will now be understood that, as the clock approaches twelve o'clock at night, the stud *i* comes into contact with the finger 12, and lifts the lever *f*, moving the spring-pawl bar *g*, and turning the calendar-rollers and panoramic belt, so as to show another number through an opening in the case of the clock. This movement is gradual, and can occupy an hour or more without inconvenience, because the change is in the night, and the power required is so small as not to interfere with the time movement.

The spring-pawl bar *g* slides in the groove or against the ledge formed by the L-shaped strip of wood *k*, so that it not only is kept toward the pins *o*, but retained from becoming misplaced; hence the spring-pawl bar is always in position to operate in turning the calendar.

The spring-pawl *t'* prevents the ratchet-wheel *l* turning back, and there is a second ratchet-wheel, *r'*, next to the wheel *l*, and a pawl upon such wheel *l*, so that the calendar can be turned back by a key applied to the shaft *u* of the roller *n*, to revolve the same, and wind the panoramic calendar upon the roller *n*, and draw it off the roller *m*.

There is a friction-spring, *v*, upon the shaft *u*, to prevent the roller *n* turning accidentally in its bearings, and loosening the panoramic strip, and a shaft, *w*, for a key should also be used with the roller *m*, so that this can be turned forward to set the calendar.

I claim as my invention—

1. The spring-pawl bar *g*, guided by the L-shaped strip *k*, in combination with the ratchet-wheel *l* and panoramic calendar, substantially as set forth.

2. The lever *f*, in combination with the time-movement, the wheel *e*, stud *i*, pawl-bar *g*, and panoramic calendar, substantially as set forth.

3. The rollers *m n* and panoramic calendar *r*, in combination with the ratchet-wheels *l r'*, shafts *u w*, and friction-spring *v*, whereby the panoramic calendar can be set either forward or backward, substantially as set forth.

Signed by me this 7th day of October, 1876.

ALBERT PHELPS.

Witnesses:

SHERMAN C. BLAIR,

ALBERT S. TERRY.